

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application.

Claims 1-15 (Cancelled).

16. (New) A method of inducing remodeling of the skin, comprising:
 - generating a beam of radiation having a wavelength of between about 1.3 and 1.8 microns;
 - directing the beam of radiation to a targeted dermal region,
 - cooling an epidermal region of the skin above the targeted dermal region to minimize injury to the epidermal region; and
 - causing sufficient thermal injury to the targeted dermal region to elicit a healing response to cause the skin to remodel itself.
17. (New) The method of claim 16 further comprising generating a beam of radiation having a fluence of between 10 and 150 Joules per square centimeter or a power density of between 5 and 100 Watts per square centimeter.
18. (New) The method of claim 16 further comprising directing the beam of radiation to a targeted dermal region between 100 microns and 1.2 mm below a wrinkle in the skin.
19. (New) The method of claim 16 wherein the cooling step comprises cooling the epidermal region of the skin above the targeted dermal region before, during, or both before and during the step of causing thermal injury within the targeted dermal region.
20. (New) The method of claim 16 further comprising partially denaturing collagen in the targeted dermal region.

21. (New) The method of claim 16 further comprising accelerating collagen synthesis in the targeted dermal region.
22. (New) The method of claim 16 further comprising causing thermal injury to the targeted dermal region sufficient to elicit a healing response that produces substantially unwrinkled skin.
23. (New) A method of dermal skin rejuvenation, comprising:
 - generating a beam of radiation having a wavelength of between about 1.3 and 1.8 microns;
 - directing the beam of radiation to a targeted dermal region,
 - cooling an epidermal region of the skin above the targeted dermal region to minimize injury to the epidermal region; and
 - causing sufficient thermal injury to the targeted dermal region to increase extracellular matrix constituents for dermal skin rejuvenation.
24. (New) The method of claim 23 further comprising generating a beam of radiation having a fluence of between 10 and 150 Joules per square centimeter or a power density of between 5 and 100 Watts per square centimeter.
25. (New) The method of claim 23 further comprising directing the beam of radiation to a targeted dermal region between 100 microns and 1.2 mm below a wrinkle in the skin.
26. (New) The method of claim 23 wherein the cooling step comprises cooling the epidermal region of the skin above the targeted dermal region before, during, or both before and during the step of causing thermal injury to the targeted dermal region.
27. (New) The method of claim 23 further comprising activating fibroblasts which deposit increased amounts of extracellular matrix constituents in the targeted dermal region.

28. (New) The method of claim 23 further comprising partially denaturing collagen in the targeted dermal region.

29. (New) The method of claim 23 further comprising accelerating collagen synthesis in the targeted dermal region.

30. (New) A method of tightening human skin, comprising:

generating a beam of radiation having a wavelength of between about 1.3 and 1.8 microns;

stretching the skin relative to a wrinkle disposed above a targeted dermal region;

directing the beam of radiation to the targeted dermal region,

cooling an epidermal region of the skin above the targeted dermal region to minimize injury to the epidermal region; and

causing partial denaturation of collagen fibers in the targeted dermal region to tighten the skin.

31. (New) The method of claim 30 further comprising stretching the skin along a wrinkle disposed above a targeted dermal region.

32. (New) The method of claim 30 further comprising causing partial denaturation of collagen fibers across the wrinkle to tighten the skin.

33. (New) The method of claim 30 further comprising generating a beam of radiation having a fluence of between 10 and 150 Joules per square centimeter or a power density of between 5 and 100 Watts per square centimeter.

34. (New) The method of claim 30 further comprising directing the beam of radiation to a targeted dermal region between 100 microns and 1.2 mm below a wrinkle in the skin.

35. (New) The method of claim 30 wherein the cooling step comprises cooling the epidermal region of the skin above the targeted dermal region before, during, or both before and during the step of partial denaturation of collagen fibers across the wrinkle.

36. (New) The method of claim 30 further comprising activating fibroblasts which deposit increased amounts of extracellular matrix constituents in the targeted dermal region.

37. (New) The method of claim 30 further comprising accelerating collagen synthesis in the targeted dermal region.

38. (New) A method of treating human skin, comprising:

generating a beam of radiation having a wavelength having a tissue absorption coefficient in the range of between 1 and 20 cm⁻¹;

directing the beam of radiation to a targeted dermal region,

cooling an epidermal region of the skin above the targeted dermal region to minimize injury to the epidermal region; and

causing sufficient thermal injury to the targeted dermal region to rejuvenate, tighten, or remodel the skin.

39. (New) The method of claim 38 further comprising causing sufficient thermal injury to elicit a healing response to cause the skin to remodel itself.

40. (New) The method of claim 38 further comprising causing sufficient thermal injury to increase extracellular matrix constituents for dermal skin rejuvenation.

41. (New) The method of claim 38 further comprising causing partial denaturation of collagen fibers in the targeted dermal region to tighten the skin.

42. (New) The method of claim 38 further comprising:

stretching the skin relative to a wrinkle disposed above a targeted dermal region; and causing in the targeted dermal region partial denaturation of collagen fibers across the wrinkle to tighten the skin.

43. (New) The method of claim 38 further comprising causing thermal injury to the targeted dermal region sufficient to elicit a healing response that produces substantially unwrinkled skin.

44. (New) The method of claim 38 further comprising activating fibroblasts which deposit increased amounts of extracellular matrix constituents in the targeted dermal region.

45. (New) The method of claim 38 further comprising accelerating collagen synthesis in the targeted dermal region.